


The Arboretum Bulletin



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Surplus Plant and Seed Distribution

Attention of Members

IF YOU are interested in procuring your share of the surplus plants and seeds that are available to the members of the Foundation, please remember this date—Wednesday, April 3, 1940. On that day there will be available at the Arboretum greenhouses a surprisingly large list of excellent plant materials including the following:

- (1) Seeds of Asiatic rhododendrons.
- (2) Miscellaneous seeds.
- (3) One-year old seedlings of Asiatic rhododendrons.
- (4) Miscellaneous perennial and woody plants to be selected from the following:

Androsace albana
Androsace chumbyi
Androsace primuloides
Androsace walkinii
Anemone cylindrica
Anemone virginiana
Artemisia absinthium
Aster alpinus
Berberis brevipaniculata
Berberis diaphana
Berberis heteropoda
Berberis Morrisonensis
Campanula olympica
Campanula persicifolia
Cephalotaxus Harringtonia
fastigiata
Cercis chinensis
Cistus canariensis
Cistus crispus
Cistus cyprius
Cistus sp.
Cistus villosus
Clematis obtusoscula
Cryptomeria elegans Oki-Sugi
Cupressus goveniana
Douglasia laevigata
Douglasia vitaliana
Dryas octopetala
Genista sagittalis
Gentiana kurroo
Gentiana straminea
Hedera conglomerata
Helianthemum yellow
Hemerocallis aurantiaca
Iris innominata
Iris setosa
Iris tricuspid

Juniperus horizontalis douglasii
Lewisia columbiana
Lyccesteria formosa
Liriope graminifolia
Lithospermum fruticosum
Lobelia cardinalis fulgens
Osmanthus fragrans aquifolius
Penstemon acuminatus
Penstemon arizonicus
Penstemon cardwellii
Penstemon corymbosus
Penstemon gentianoides
Penstemon Hartwegii
Penstemon heterophyllus
Penstemon palmeri
Penstemon pubescens
Penstemon rupicolus
Penstemon similis
Phlox subulata pink
Pinus sp. (from Spain)
Polemonium caeruleum
Polygonum affine
Polygonum vacciniifolium
Pulmonaria saccharata
Pulmonaria sp.
Pyracantha sp.
Rhus glauca
Rosmarinus officinalis
Sarcococca ruscifolia
Sedum murale album
Spartium junceum
Stranvaesia salicifolia
Taxus baccata
Thuja occidentalis
Thymus herba barona
Thymus lanuginosa
Thymus rotundifolia
Veronica sp.

A committee from the Arboretum Foundation Board of Directors is arranging to handle the details of the distribution. Members who find it impossible, because of distance, to come to the Arboretum to get their plants, may indicate their choice from any of the above four groups. If plants are desired a charge will be made for packing and postage.

Note this fact carefully: Plants and seeds are available only to members who can present their 1940 membership cards.

Arboretum Notes

The planting of flowering cherries and Eastern dogwoods along Azalea Way has been completed and preparations for putting out the azaleas themselves are now under way. Within the next few weeks approximately 1700 azalea plants will be in place and the area will be mulched and made ready for the summer season.

An interesting lot of plants has been grafted during the past month. Through the kindness of a number of our Foundation members we were able to procure scion material of excellent varieties of rhododendrons, flowering cherries, apricots, peaches and crabapples.

The rhododendrons were exceptionally fine. They included a number of English hybrids that are much in demand at the moment. Two hundred and fifty rhododendron grafts were made and are now developing in the grafting cases.

Among the cherries, one variety from Mr. Umlauf at Volunteer Park, Seattle, is worthy of particular mention. The parent tree occupies a prominent position in that park, and, according to Mr. Paul Russell, cherry authority with the Bureau of Plant Industry, it is the only known specimen of its particular type. It is a special form of *Prunus subhirtella pendula* which has double flowers instead of the normal single types. A total of 100 grafts were made from the miscellaneous cherries, apricots, peaches and crabapples with which we were presented. They are now developing in the nursery.

Rooting Cuttings of the Western Dogwood

J. H. HANLEY

IT HAS been known for some time that the propagation of the Western dogwood (*C. nuttallii*) by stem cuttings was quite difficult. One Canadian worker reported an absolutely zero per cent of strike after testing several hundred of such cuttings taken at different times of year, in spite of the fact that indolebutyric acid, the now-popular plant hormone, was used. Hence it was pleasing to us to learn from Mr. D. O. Crummett, of the federal Plant Introduction Station at Chico, California, that he had found a way to propagate *C. nuttallii* using stem cuttings.

The cuttings were taken on June 19, 1939, and divided into eight lots. Seven of the groups were treated with hormones and one lot was left as a check or control. The untreated, control group did not root at all but some roots were formed on cuttings in each of the seven lots that were hormone-treated. Actually, the total strike varied from 10 to 70 per cent, depending upon the concentration of the hormone and the way it was applied.

There are three factors of interest in the results. First, the time of year at which the cuttings were taken. On June 19, at Chico, the wood must have been in good condition—

neither too hard nor too soft. Comparing the two localities, one would strongly suspect that the proper time for making the cuttings in the Puget Sound country would be from July 1 to mid-August, depending upon the summer rainfall.

A second consideration is the type of hormone used. Crummett made use of naphthalene acetic acid instead of indolebutyric, the common ingredient in commercial preparations. Although Went (Calif. Inst. Tech., Pasadena) has demonstrated that certain plants which will not respond to indolebutyric acid, may root if other hormones are applied, the evidence in the present instance is insufficient to support that premise as regards *Cornus nuttallii*. It is still our belief that the commercial, *liquid* hormone preparations which contain indolebutyric acid as the active ingredient, will also produce the desired positive response. We do, however, reserve the right to withdraw from this position should next summer's tests on the rooting of different strains of *C. nuttallii* prove otherwise. Thus far, only the logic of the situation is in our favor.

A third factor of interest and importance in the Crummett report is a comparison of the value of the hormone applied in the form of a powder (mixed with tale) as against the same hormone in liquid form. The four lots of cuttings, treated with the liquid, rooted 50, 50, 70 and 70 per cent respectively; each of the three groups treated with the powder form rooted 10 per cent only.

To summarize, then: It would appear that summer cuttings of *Cornus nuttallii* can be induced to form roots by treating with 0.003 per cent of naphthalene acetic acid solution for 20 hours. It would seem logical to expect similar results from the use of any of the liquid hormone preparations of like concentration.

Heaths and Heathers

By ARTHUR P. DOME

(Concluded from February Issue)

FALL is the time of year when the rotation of bloom falls down. Although the Callunas bloom up into the autumn they are not at their best. *Erica ciliaris* and its varieties have given me my best showing this year and that is nothing to brag about. Mrs. C. H. Gill is no doubt the best *ciliaris* yet produced. It has rich, clear, red flowers produced freely on stiff, upright stems. It is a new variety and so far as I know, this is the first year that it appeared on the market. Another good one is *E. ciliaris* Wych. It is a rather ragged grower but when it blooms is covered with large flesh pink flowers. Often called a hybrid, it is definitely a form of the species *ciliaris*. A good white variety that is still blooming in my garden this last week in November is the *E. c. alba*. Its flowers are very attractive and are freely produced on stiff upright stems that stand out from the plant like perky little canopies.

The hybrid heaths will bloom any time of the year except during freezing weather. The *Erica* Hybrid Dawn, which is a cross between *E. ciliaris* and *E. tetralix*, is one of the best. In spring the new shoots are yellow and orange, making the plant look like one already in bloom. Then in summer, when the blossoms really come, they are subglobose like *tetralix*, only a deep pink in color. It is a beauty. Mine are still blooming.

Of the moss varieties there are two worth mentioning. The *Calluna vulgaris minima* is like a fat, green pin-cushion, about four inches tall. The foliage is a fluffy light green in summer and in autumn it turns red tipped and bronze. The purplish pink flowers are unimportant.

The very best moss variety is the *C. vulgaris foxii nana*. It grows to a height of only one and a half inches and a single dense, deep green cushion, very symmetrical and proper. I have only one plant but it gets more enthusiasm from visitors than anything else in the garden.

If your garden is large you might be interested in the *Erica arborea alpina*. This heath will not stand low freezing temperatures but if given protection will attain a height of 10 feet. It is very brittle and easily broken. The flowers are pure white and come on plumed branches early in the spring.

It might be well to say a word about *Daboecia*, commonly called the Irish or Bell Heather. This plant is not too closely related to the heaths and heathers, but it has been associated with them for so long that it is commonly accepted as one. They have larger leaves and flowers than the *Ericas* or *Callunas* and will bloom twice a year if the seed pods of the first flowering are cut off. If you like it you will find it grows well in your heather garden.

The above list will give you an ever-blooming garden, but there are two colors you will not have—yellow and blue. Although there is a so-called yellow heather growing in our mountains, it is really not a heather nor is it yellow. It is a *Phyllodoce* and it is a greenish white which looks yellow from a distance.

Some day someone may develop a true yellow heather or even a blue one. But the seeds are so small and so difficult to handle that the bees have been allowed to do most of the hybridizing heretofore.

Heaths and heathers are easily propagated. I have had my best success with cuttings. Layering or splitting up large plants are neither of them satisfactory. Splitting up creates poor plants that may soon die, and layering makes a straggly plant. All the growth you use for layering could be made into a good cutting. Make your cuttings about one inch long, of firm, green wood. Do not use slips that will break easily when you strip the lower leaves, or slips that are so hard they have no resilience in them. Some people say to use cuttings with a heel. That is not necessary. With the heel there is a bigger space to callous. I think a clean cut across a fresh green stem with plenty of nodes where the leaves were stripped is much better. Nor is it necessary to use hormones on heather cuttings. Through experiments of my own and observing others I have found a greater percentage of cuttings struck without the hormones.

Pure sand is best for striking the cuttings, but do not leave them in too long after they have rooted because there is no nourishment in sand. Transplant young rooted cuttings into 50 per cent peat moss and loam. Be careful of moss and liverwort growing on your flats. If not taken care of they will kill the cuttings.

Like most young things a new heather garden needs a little special care until it is established. But once they have their feet firmly planted and you feel sure they are happy, they need only an occasional watering in summer and their annual pruning. And don't forget the pruning. Do your pruning in the spring after all danger of heavy frost is past. It is best to cut back to where last season's flowers started. This will leave a nice green plant.

Whether you grow heaths and heathers as a hobby, a business or just an occasional plant in a small garden, don't forget they are very friendly plants and will more than repay any effort you make to get thoroughly acquainted with them. Of the 63 varieties I now have in my garden it is hard to say which I enjoy most. May you have as much fun from yours.

Pruning Roses

By HERBERT PRUVEY

THE pruning of roses is a rather complicated task. It presupposes an intimate knowledge of the species that have predominated in the development of the numerous types now used in our gardens. The purpose of this article is to point out the important factors of "blood" lines or "blood" relationships as they affect the pruning method that is followed.

In a few cases rose plants that are received from nurseries have been pruned at the nursery before shipping. The wise gardener will, however, stipulate in the order that no pruning be done at the point of purchase. He will thus be in a better position to determine, by considering both the type and the vigor of the plant, how much or how little pruning should be done. This procedure is desirable in spite of the fact that rose plants in many states, as in Washington, are sold by grade. Variation in grading standards is too variable to be relied upon.

When the plants are received, all broken roots should be pruned, and long, straggly ones shortened back. The plants may then be heeled in where the soil is well-drained until required for planting.

As previously mentioned, roses will vary both as to the time and the method of pruning, depending upon their parentage. In general, if the parent species come from warmer climes, the varieties should be pruned later in the spring; if the parents are cold-country plants, their progeny can be pruned much earlier.

Rosa rugosa and its varieties need no special pruning other than the removal of crisscross branches and very old wood. This species with its typical forms such as *alba*, and *Agnes* (a yellow), are among the first plants to break in early spring. Similarly, varieties which have arisen from *R. arvensis*, the Ayrshire rose from Europe (hardy climbers), may even be pruned in late fall or winter. The hardiness of the parent species permit this. One should thin out one or two of the very old shoots to the ground line in order to get a renewal of good, strong canes. The tips of the remaining branches can then be shortened back three to six inches.

At the other extreme, from the standpoint of hardiness, are the *Rosa indica* var. *odorata* types. These are the tea roses from Western China. As a group they should not be pruned until early April. Some of these are climbers, such as the old favorite *Maréchal Niel*, while others are dwarf, like the variety *Mrs. R. N. Cant*. Since the parental species come from a warmer climate these types should be planted in sunny, well sheltered positions and pruned later. Ordinarily they are "close-pruned"; that is, cut back to four to six buds of the previous year's growth.

The Austrian Brier types (from *R. lutea*), such as *Persian Yellow*, should be pruned by removing only the unripened tips of the branches. For *Rosa rubiginosa*, *Sweet Brier*, whether it is grown as a specimen plant or in hedges, one needs only to thin out an occasional old shoot at the ground line and shorten any straggly stems. In the *rosa pendulina* (*Boursault*) class the weak wood should be removed and the soft unripened tips of the remaining shoots cut off.

The Polyantha types, derivatives of *R. multiflora*, are becoming very popular because of their ever-blooming propensities. They have either a dwarf habit of growth such as *Mignonette*, a soft pink, or *Perle d'Or*, a yellow, which

grow to a height of about 12 inches, or are climbers. In the dwarf types prune the vigorous shoots to three buds in March; the intermediate forms can be cut back to two buds, while, for the climbers, it is only necessary to cut an occasional old growth to the ground line. Only the tips need to be removed on the strong canes. The *Rosa sempervirens* (*Evergreen*) types can be treated in the same fashion.

The moss roses, which were great favorites of our grandmothers, should be pruned in early March to four to six buds on the vigorous wood.

The Noisette varieties are more tender and should not be pruned so severely. Cutting the branches back to eight or ten buds on the vigorous growths in early April will be sufficient.

The Hybrid Teas are of course one of the most popular types today. They have a much more free-flowering habit than the Hybrid Perpetuals. Really the H. T. sorts are the perpetual forms, at least so far as growth and flowering are concerned and they have the additional advantage of providing an astonishingly wide range of colors. Pruning should be done, beginning at mid-March, by cutting out the weak wood entirely. Then remove any shoots that crisscross, especially those that grow inward toward the center of the bush, so as to keep the vigorous canes pointing outward. A more shapely bush and better air circulation will result; less mildew and better foliage naturally follow. Then the vigorous shoots can be cut back one-half their length, always endeavoring to cut to a healthy outside bud. The old varieties such as *La France*, which was introduced in 1867, and *Caroline Testout*, which appeared in 1890, are typical of the Hybrid Teas.

The Hybrid Perpetual is still a popular type of rose. Characteristically, but one crop of flowers is produced each year, though in certain parts of the world two crops develop. The H. P. roses are very old, having been introduced into England as early as 1573. In pruning, the gardener should take out weak and very old wood to the ground line and cut back the strong young shoots to within 8 to 12 inches of the base of the plant. A few varieties require less pruning. Two of the old favorites, typical of this class, are *General Jacqueminot*, introduced in 1816, and *Ulrich Brunner fils*, which appeared in 1882. In the bush varieties of this class, the best flowers appear from the current season's growth but on the climbing types they arise from the previous year's growth.

In the Pernetiana class (hybrids between the Austrian Brier and Hybrid Perpetual), pruning is the same as for the Hybrid Teas except for the weak varieties.

For choice, exhibition blooms one should disbud each flowering stem by removing all flower buds below the terminal one (providing the terminal is well formed).

Since the good rose plants offered for sale by reliable firms are mostly all two-year budded stocks, one should always watch carefully for the suckers which arise from the understocks. Do not let suckers develop, for, if they gain the ascendancy, the budded variety may be killed and only the single-flowered, wild type rose will appear. One way of distinguishing such growth from the stock is that it usually has more leaflets and smaller leaflets than the variety, and they are most often a much lighter green in color. Follow these suckers down below the ground line and cut them out clean where they join the stock. If but one growth bud is left it will grow again.

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